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Correlated signals of the accumulated photon echo on CdSe - CdS quantum dots

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Abstract

The possibility of an observation of correlated signals of the accumulated photon echo under a three-photon excitation of a sample, which is an ensemble of semiconductor nanoparticles of "core - shell" type, by a femtosecond radiation of Ti:Sa laser is discussed. The phase matching conditions of such signals are obtained.

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References

[1] Leontiev A V, Lobkov V S, Mitrofanova T G, Samartsev V V and Shmelev A G 2012 Laser Phys. Lett. 9 654
[2] Samartsev V V and Mitrofanova T G 2016 Laser Phys. 26 125203
[3] Yevseyev I V, Rubtsova N N and Samartsev V V 2009 Coherent Transient Processes in Optics (Moscow: Fizmatlit) in Russian
[4] Zuikov V A, Samartsev V V, Stelmakh M F, Yakshin M A, Yufin M A and Yashin A N 1991 Laser Phys. 1 678
[5] Zharkov D K, Shmelev A G, Leontiev A V, Lobkov V S and Samartsev V V 2014 Coherent Optics and Optical Spectroscopy ed M Kh Salakhov (Kazan: Kazan Federal University) 109-112
[6] Einstein A, Podolsky B and Rosen N 1935 Phys. Rev. 47 777
[7] Samartsev V V 2015 Correlated Photons and Their Applications (Cambridge, UK: CISP)
[8] Hillmann F, Voight J and Redlin H 2000 Appl. Phys. Lett. 77 4181
[9] Roco M C, Williams R S and Alivisatos P (ed) 2000 Nanotechnology Research Directions: IWGN Workshop Report: Vision for Nanotechnology R & D in the Next Decade (Dordrecht: Kluwer Acad. Publ.)
[10] Chon J W M and Gu M 2004 Appl. Phys. Lett. 84 4472
[11] Kalachev A A and Samartsev V V 2003 Coherent Phenomena in Optics (Kazan: Kazan University) in Russian
[12] Mckimmie L J, Lincoln C N, Jasieniak J and Smith T A 2010 Jour. Phys. Chem. 114 82
[13] Manykin E A and Samartsev V V 1984 Optical Echo Spectroscopy (Moscow: Nauka) in Russian
[14] Takemoto K, Hyun B R and Masumoto Y 2000 Jour. of Luminescence 87-89 485